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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,558	12/26/2001	Michael Clarence Claerhout	4059/21	8304

7590 05/14/2004  
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EXAMINER

BUTLER, DOUGLAS C

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 05/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/025,558

**Applicant(s)**CLAERHOUT, MICHAEL  
CLARENCE**Examiner**

Douglas C. Butler

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-31 and 38-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-31 and 38-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 22-31 and 38-42 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been obtained in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 22-31 and 38-42 are pending with claims 1-21 and 32-37 having been canceled.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 22-26 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacob(3574414), newly cited.

Independent claims 22 and 38 are not limited to a piezoelectric actuator. Claim 38 has been broadened by deleting piezo.

Figure 3 of Jacob discloses a pressure-sensitive laminate 18, 19,21,23,27 with “no moving parts” as defined by applicant.

Re claim 23, the brake of Jacob is a service and/or parking brake.

Re claim 25, “auxiliary control unit” is readable on Jacob. Applicant should carefully review the instant specification as to the lack of any particular details re the units.

Re claim 26, the circuitry of Figure 6 “polls” as broadly recited.

Re the feature of increasing and decreasing signals, actuation of the brake pedal of Jacob accomplishes the increase and decrease of braking. Pressing down on a brake pedal actuates the brakes, which is common, and releasing the brake pedal releases the brakes, which is also common.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 27-28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacob in view of Marshall et al(4254998), of record.

Instant claims 27-28, 31 are directed to independent operation of the trailer or towed vehicle brakes which is lacking in Jacob.

Sway control arrangements similar to Marshall et al(4254998) provide for independent operation of a predetermined time and force.

It would have been obvious at the time the invention was made to one having ordinary skill in the art to which the invention pertains to modify the principal reference to Jacob to include sway control as taught by Marshall et al in order to avoid accidents due to swaying of the towed vehicle.

6. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacob in view of Kline et al(4938542), newly cited.

Instant claims 29-30 are directed to continued braking in the event of breakaway which is conventional as per Kline et al(4938542), newly cited.

It would have been obvious at the time the invention was made to one having ordinary skill in the art to which the invention pertains to modify the principal reference to Jacob to include breakaway control similar as taught by Kline et al in order to avoid accidents due to breakaway of the towed vehicle.

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7. Claims 39, 40(which depends on independent claim 22) and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacob in view of any one of the references to JP 4-146866(, of record, with translation previously forwarded to applicants to disclose laminated piezo brake actuator at 26 in Figures 1, 3) or Klein(DE3431823), newly cited, or Leonard et al(5115162), of record, or FR2742108 to Heredia, of record, or JP 59-3139 to Fujita, newly cited, or JP 63-245976 to Katayama et al, newly cited.

Claims 39, 40 and 41 claim that the brake sensor is a piezo-electric sensitive, not in Jacob, but which is found in each of the secondary references. Re the secondary references:

JP 4-146866(translation previously forwarded to applicants to disclose laminated piezo brake actuator at 26 in Figures 1, 3).

Re Klein(DE3431823), newly cited, see piezo sensitive laminated structures at 12, 40, 26. See page 14 of Klein.

Re Leonard et al(5115162): see Figures 2 and 4. See the Abstract which clearly uses the term piezoelectric which corresponds to applicant's term "piezo-electric".

Re FR2742108 to Heredia, of record: a variety of equivalent types of brake pedal sensors are disclosed including a piezo sensor 7.

Re JP 59-3139 to Fujita, newly cited: Note piezo sensitive Pz.

Re JP 63-245976, newly cited: Note laminated piezo sensitive sensor in Figures 1-9.

Applicant should note that the examiner has ordered translations of Klein(DE3431823), FR2742108 to Heredia, of record, JP 59-3139 to Fujita and JP 63-245976 to Katayama et al, newly cited. The examiner intends to forward copies of the translations with the next office action if available, in order for applicant to better appreciate the undue breadth of the claims in this application.

It would have been obvious at the time the invention was made to one having ordinary skill in the art to which the invention pertains to modify the principal reference to Jacob to modify the laminated pressure-sensitive brake pedal sensor in Figure 3 thereof to be piezo sensitive as taught by each of the secondary references. Such modification involves replacing one well known type of pressure sensitive actuator with an equivalent type of pressure sensitive actuator. The assemblies operate in substantially the same manner with substantially the same effect.

Re claim 40, a laminated piezo sensor with laminations reads on "a number of piezoelectric elements".

8. Claim 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Jacob in view of the prior art applied to claim 39 above, and further in view of any of the references to Saitoh et al(US5115809) or JP7-38170 to Asano et al or JP 5-55658 to Ono et al or EP000743541A1 to Safronov or Venkataramani et al(US5704105), or Inoue et al(US5438232) or JP2-143474 to Tagami, all newly cited.

Re the new recitation of a "parallel" aspect to the structure of the piezoelectric sensor which is very general lacking any particular details in the specification, it would have been obvious at the time the invention was made to one having ordinary skill in the

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art to which the invention pertains to modify the principal reference to Jacob, as modified, to include parallel elements as taught by each of the references to better sense and transmit signals.

See column 1, line 58 to column 2, line 15 of Saitoh et al(US5115809).

See parallel electrodes 2a, 2b of JP7-38170 to Asano et al

See parallel electrodes 12-13 of JP 5-55658 to Ono et al

See parallel arrangement of EP000743541A1 to Safronov

See column 2,, lines 24-38 of Venkataramani et al(US5704105),

See parallel assembly of Inoue et al(US5438232)

See Constitution of JP2-143474 to Tagami.

Applicant should note that the examiner has ordered translations of JP7-38170 for Asano et al, JP 5-55658 to Ono et al and JP2-143474 to Tagami, newly cited. The examiner intends to forward copies of the translations with the next office action if available.

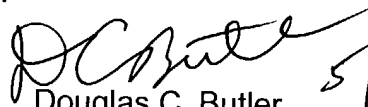
9. Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas C. Butler whose telephone number is 703-308-2575. The examiner can normally be reached on m-f 5:30 am to 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 5/11/04  
Douglas C. Butler  
Primary Examiner  
Art Unit 3683

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